| | Application No. | Applicant(s) |  |
|---|---|---|---|
| ***Notice of Allowability*** | 09/970,610 | RAZ, RYAN |  |
| | Examiner | Art Unit |  |
| | Wilbert L. Starks, Jr. | 2121 |  |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to *the filing of 04 OCT 2001*.

2. ☒ The allowed claim(s) is/are *1-28*.

3. ☒ The drawings filed on *04 October 2001* are accepted by the Examiner.

4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All    b)☐ Some*    c)☐ None    of the:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____ .

        3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

    * Certified copies not received: _____ .

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

6. ☐ CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

    (a)☐ including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached

        1)☐ hereto or 2)☐ to Paper No./Mail Date _____ .

    (b)☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of

    Paper No./Mail Date _____ .

**Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**

7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☒ Notice of References Cited (PTO-892)

2. ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)

3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
    Paper No./Mail Date *4, 5*

4. ☐ Examiner's Comment Regarding Requirement for Deposit
    of Biological Material

5. ☐ Notice of Informal Patent Application (PTO-152)

6. ☐ Interview Summary (PTO-413),
    Paper No./Mail Date _____ .

7. ☐ Examiner's Amendment/Comment

8. ☒ Examiner's Statement of Reasons for Allowance

9. ☐ Other _____ .

## DETAILED ACTION

### *Reasons For Allowance*

1.    Claims 1-28 are allowed.

2.    The following is an Examiner's statement of reasons for allowance:

3.    The cited prior art taken alone or in combination fails to teach the claimed

invention of a neural network assisted multi-spectral segmentation system, as claimed

by Applicant.  Specifically:

4.    Independent claim 1 discloses an "analyzing step utilizing previously developed

classification information for discriminating nuclear or cytoplasmic material, the

previously developed classification information being developed from at least one cell of

known regions of nuclear or cytoplasmic material."

5.    The closest prior art of Raz (U.S. Patent Number 6,463,425 B2; dated 08

October 2002; class 706; subclass 20) teaches the claimed invention of a neural

network assisted multi-spectral segmentation system, as claimed by Applicant, but fails

to teach or suggest an "analyzing step utilizing previously developed classification

information for discriminating nuclear or cytoplasmic material, the previously developed

classification information being developed from at least one cell of known regions of

nuclear or cytoplasmic material." To the extent that this feature is not found in the prior

art cited by Examiner, the present case is held allowable over the art of record.


6.      Independent claim 17 discloses "at least one first digitized image in a wavelength

of between 525 to 575 nanometers, at least one second digitized image in a wavelength

of between 565 to 582 nanometers, and at least one third digitized image in a

wavelength of between 625 to 635 nanometers."


7.      The closest prior art of Raz (U.S. Patent Number 6,463,425 B2; dated 08

October 2002; class 706; subclass 20) teaches the claimed invention of a neural

network assisted multi-spectral segmentation system, as claimed by Applicant, but fails

to teach or suggest "at least one first digitized image in a wavelength of between 525 to

575 nanometers, at least one second digitized image in a wavelength of between 565 to

582 nanometers, and at least one third digitized image in a wavelength of between 625

to 635 nanometers." To the extent that this feature is not found in the prior art cited by

Examiner, the present case is held allowable over the art of record.


### Conclusion

8.      The prior art made of record and not relied upon is considered pertinent to

applicant's disclosure.

A.      Zahniser et al. (U.S. Patent Number 6,665,060 B1; dated 16 December 2003;

        class 356; subclass 039) discloses a cytological imaging system and method.


B.      McNamara et al. (U.S. Patent Number 6,007,996; dated 28 December 1999;

        class 435; subclass 006) discloses an in situ method of analyzing cells.


C.      Cabib et al. (U.S. Patent Number 6,690,817 B1; dated 10 February 2004; class

        382; subclass 134) discloses spectral bio-imaging data for cell classification

        using internal reference.


D.      Haykin, Simon, "Neural Networks: A Comprehensive Foundation", Macmillan

        College Publishing Company, Englewood Cliffs, New Jersey, 1994, pp. 138-229.


9.      Any comments considered necessary by applicant must be submitted no later

than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on

Statement of Reasons for Allowance."

10.     Any inquiry concerning this communication or earlier communications from the

Examiner should be directed to Wilbert L. Starks, Jr. whose telephone number is (703)

305-0027.

Alternatively, inquiries may be directed to the following:

**S. P. E. Anthony Knight**          **(703) 308-3179**

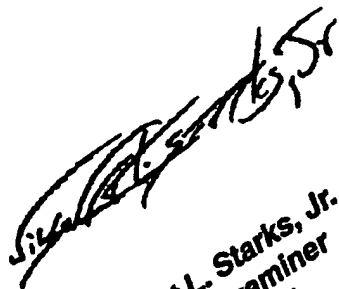**After-final (FAX)**                **(703) 746-7238**

**Official (FAX)**                   **(703) 746-7239**

**Non-Official/Draft (FAX)**         **(703) 746-7240**

WLS

16 September 2004

Wilbert L. Starks, Jr.
Primary Examiner
Art Unit - 2121